A. TYPHOON TESS (240000Z-310600Z MARCH 1961)

On 21 and 22 March, the winds aloft and surface observations at Truk indicated that a weak tropical cyclone, which originated about 160 mi SE of Ponape on 18 March, had passed just S of Truk at about 211200Z and was intensifying. A reconnaissance aircraft investigated the cyclone on 23 March and reported that a weak circulation existed with maximum surface winds of 15 kts. The circulation was closely observed and on 24 March a reconnaissance aircraft indicated that the system was intensifying, for the maximum observed surface winds had increased to 45 kts. Based on this data, the first warning was issued at 240000Z on Tropical Storm TESS.

At 240000Z TESS was about 300 mi S of Guam, moving towards Yap and intensifying. TESS was upgraded to typhoon intensity at 250000Z and by 251200Z was just S of Yap with maximum surface winds of 75 kts. TESS passed within 30 mi of Yap, and reports from Yap indicated a minimum sea level pressure of 989.0 mbs with peak surface gusts of 50 kts. After passing Yap, TESS began to recurve, and by 271200Z was moving just E of N at 4 kts. By this time TESS had maximum surface winds of 125 kts and no further intensification was anticipated as TESS appeared to be in a trough that was moving through the westerlies; however, the trough passed quickly to the E and at 280600Z TESS began to intensify again and turn towards the NNW. Surface winds reached 135 kts by 281800Z and thereafter TESS began to weaken slowly. After 300600Z TESS began to recurve and rapidly weaken. By 310600Z TESS was moving ENE at 23 kts with maximum surface winds of less than 30 kts, therefore the final warning was issued at this time.

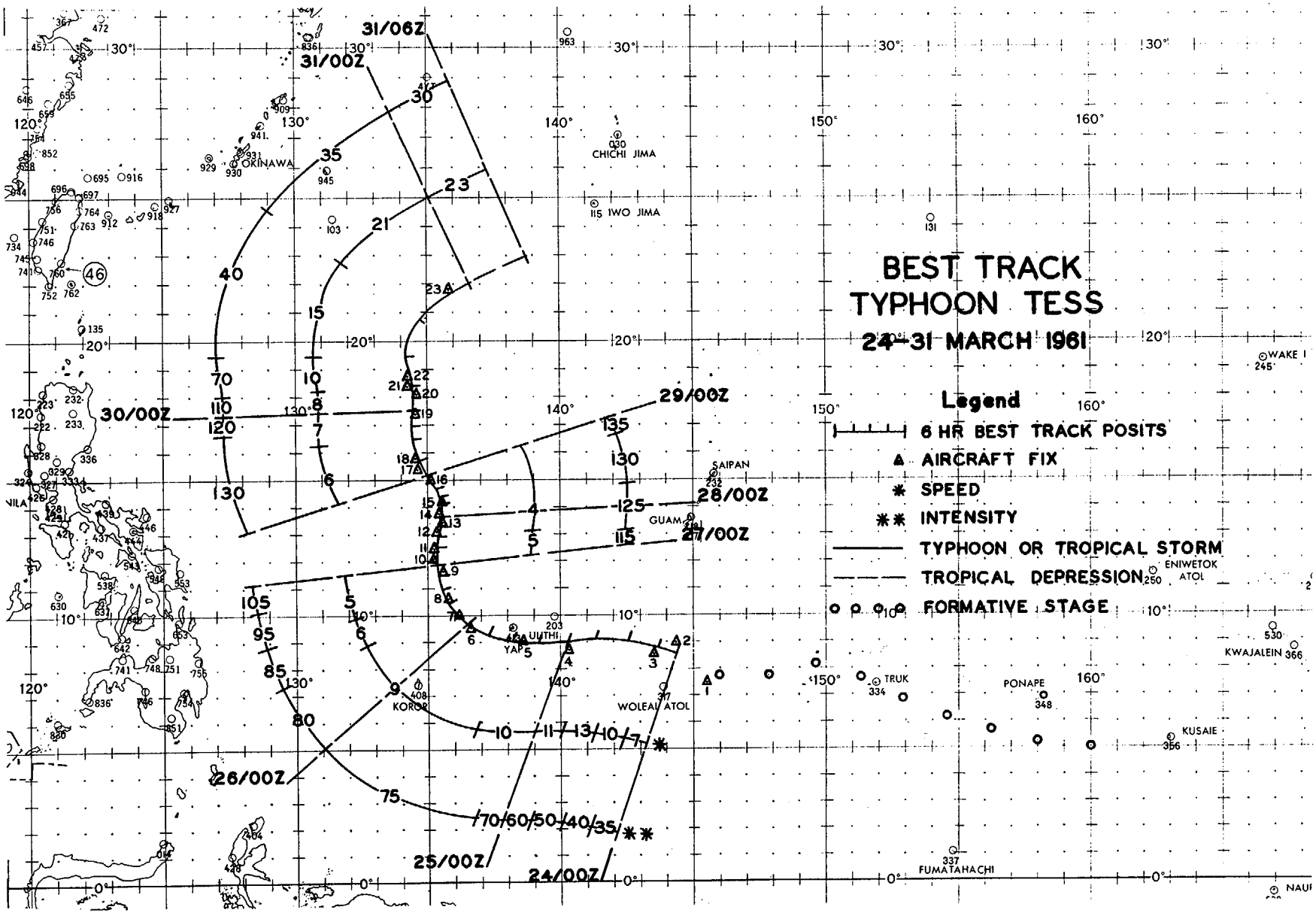
The cyclonic circulation of TESS extended to about the 300 mb level during the period it was a typhoon and at the time of the final warning extended to less than 10,000 ft. TESS followed the track of climatology quite well, and in a period of 7 days and 6 hours traveled 1,450 mi, averaging 8 kts or 200 mi per day. The minimum speed of movement was 4 kts on 27 and 28 March and the maximum speed of movement was 23 kts on 31 March.

An unusual feature of TESS was that on 28 March it appeared that TESS was caught in a trough moving through the westerlies. Weakening was indicated and TESS had begun to move E of N; however, with passage of the trough to the E, TESS began to intensify again and turned to the NNW. Another rarity, TESS was one of 3 typhoons to occur during March in the past 14 years.

A concentric eye was observed by weather reconnaissance at 270740Z at 12.6N 135.2E. The SLP was 940 mb; 700 mb wind, 120 kts; height, 8500 ft; and temperature 21° C.

TESS, beating the season by about four months began her life

CHURNING HARMLESSLY IN THE OPEN SEA OF THE CAROLINE ISLANDS. SHE MAINTAINED A RELATIVE WESTERLY MOVEMENT PASSING 24 MILES SOUTH OF YAP ISLAND ON THE 25TH OF MARCH AT 1200Z. MAXIMUM PEAK GUSTS OF 50 KTS WERE RECORDED AT 2255Z. A TOTAL OF 3.6 INCHES OF RAIN FELL DURING THE PASSAGE, WITH NO RISE IN TIDES. PRELIMINARY REPORTS INDICATED CONSIDERABLE DAMAGE TO TREES AND HOUSING WITH NO CASUALTIES REPORTED. TESS BEGAN RECURVING TO THE NORTH SHORTLY AFTER PASSAGE OF YAP. SHE REMAINED ON THIS NORTHERLY COURSE BLOWING INNOXIOUSLY OVER OPEN SEA FOR THE DURATION OF HER LIFE, BUT MAY HAVE CAUSED DAMAGE TO SEAGOING VESSELS.


BEST TRACK
TYPHOON TESS
24-31 MARCH 1961
Legend
6 HR BEST TRACK POSITS
AIRCRAFT FIX
SPEED
INTENSITY
TYPHOON OR TROPICAL STORM
TROPICAL DEPRESSION
FORMATIVE STAGE
31/06Z
31/00Z
30/00Z
29/00Z
28/00Z
27/00Z
26/00Z
25/00Z
24/00Z
70/60/50/40/35
CHICHI JIMA
IWO JIMA
OKINAWA
SAIPAN
GUAM
YAP
ULITHI
KOROR
WOLEAI ATOL
ENIWETOK ATOL
TRUK
PONAPE
KUSAIE
KWAJALEIN
WAKE I
FUMATAHACHI

LAND RADAR AND AIRCRAFT FIXES - TYPHOON TESS

FIX NO.	TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	MIN SLP MBS	700MB T/TD (°C)	EYE CHARACTERISTICS
1	222300Z	07.6N	145.5E	56-P-10	15	---	10240	1009	09/09	SEMICIRC WALL CLDS W THRU N-E DIA APPROX 40 MI
2	232300Z	09.0N	144.3E	56-P-10	45	30	10220	1005	12/11	SEMICIRC DIA 30 MI WALL CLDS N & W OPEN E & S
3	240636Z	08.7N	143.6E	56-P-02	30	35	10121	1003	13/03	NOT WELL DEFINED ON RADAR
4	242227Z	08.8N	140.2E	56-P-05	65	40	9870	994	17/13	NOT WELL DEFINED 10 MI DIA
5	250715Z	09.1N	138.7E	56-P-01	75	70	9850	984	16/11	CIRC DIA 40 MI WALL CLDS E-N-W
6	252145Z	09.7N	136.6E	56-P-05	80	60	9500	988	15/08	NO WELL DEFINED EYE PATTERN
7	260230Z	10.0N	136.2E	56-P-05	80	60	9410	980	17/11	NO WELL DEFINED EYE PATTERN
8	260745Z	10.6N	135.9E	56-P-02	80	60	9490	974	17/10	CIRC NOT TOO WELL DEFINED DIA 70 MI WALL CLDS N-NE
9	262200Z	11.8N	135.5E	56-P-05	50	90	8930	966	17/13	CIRC DIA 20 MI WELL DEFINED
10	270300Z	12.2N	135.3E	56-P-02	110	110	8760	968	21/14	CIRC DIA 20 MI WELL DEFINED
11	270740Z	12.6N	135.2E	56-P-02	110	120	8510	940	21/07	CIRC DIA 20 MI
12	271500Z	13.1N	135.3E	VW1-R-05	---	---	----	---	-----	DIA 12 MI HVY WALL CLDS ALL QUADS
13	272145	13.5N	135.7E	56-P-05	---	105	8680	974	17/17	ELLIP DIA 12 BY 25 MI NE-SW EYE NOT WELL DEFINED
14	280245Z	13.9N	135.5E	56-P-05	80	120	8610	972	16/16	EYE NOT DEFINED BY RADAR OR VISUAL
15	280920Z	14.1N	135.6E	56-P-02	100	120	8510	946	18/17	30 MI DIA WELL DEFINED WALL CLDS ALL QUADS

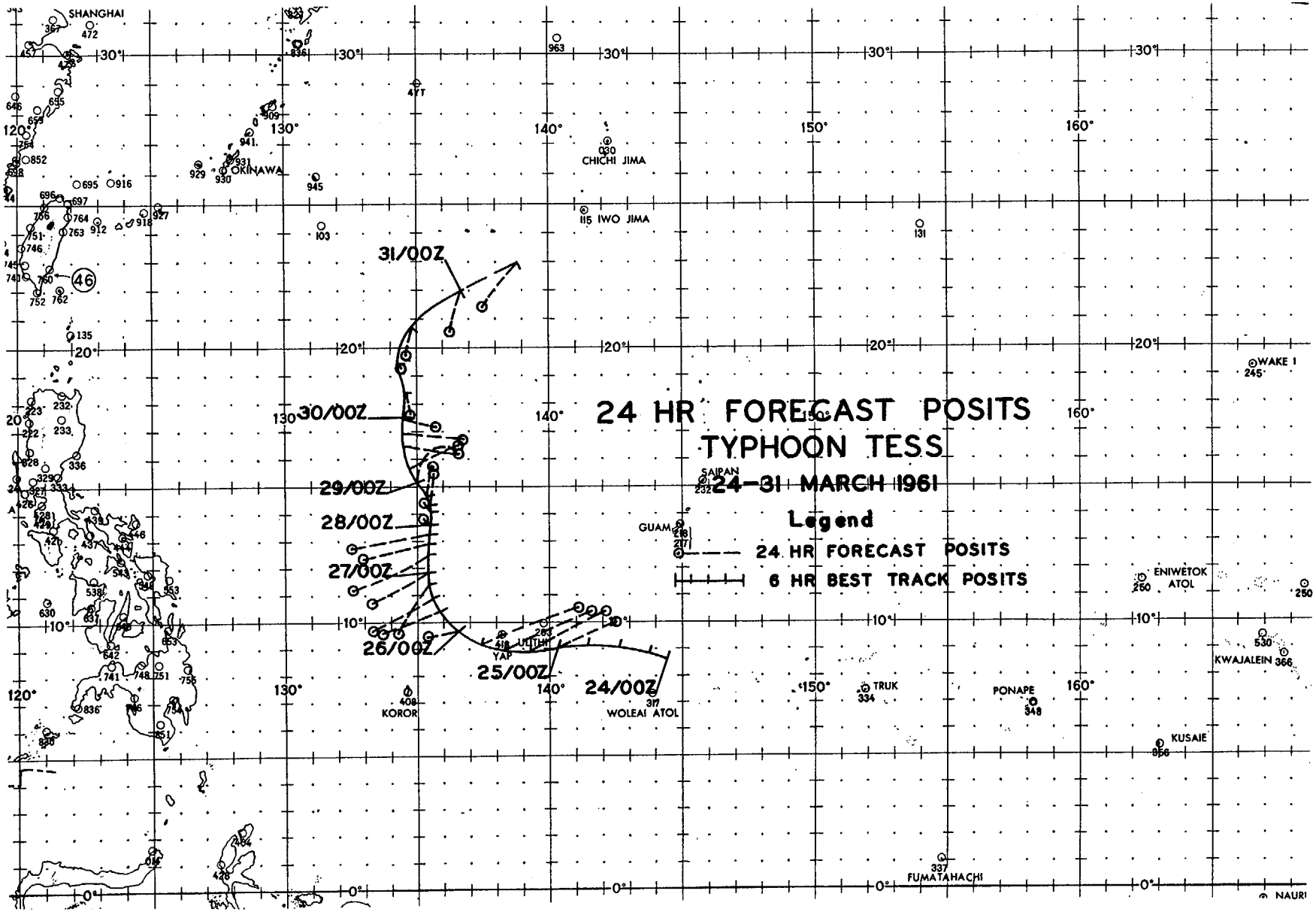
LAND RADAR AND AIRCRAFT FIXES - TYPHOON TESS (CONT'D)

FIX NO.	TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	MIN SLP MBS	700MB T/TD (°C)	EYE CHARACTERISTICS
16	282215Z	15.0N	135.1E	56-P-05	---	122	8420	937	20/16	CIRC DIA 15MI WALL CLDS ALL QUADS
17	290245Z	15.4N	134.8E	56-P-05	100	105	8610	946	19/15	CIRC DIA 20MI WALL CLDS ALL QUADS
18	290745Z	15.9N	134.6E	56-P-05	110	120	8780	951	21/17	CIRC DIA 15MI WALL CLDS ALL QUADS
19	292210Z	17.4N	134.6E	56-P-05	125	110	9020	953	19/14	30X20MI LONG AXIS NW OPEN SE
20	300356Z	18.2N	134.6E	56-P-05	120	100	9140	975	21/15	NOT DEFINED WALL CLDS NE ALL OTHER QUADS OPEN
21	300535Z	18.6N	134.3E	VW1-R-05	---	---	-----	---	-----	CIRC DIA 18MI OPEN SW
22	300755Z	18.8N	134.3E	56-P-10	80	60	9930	987	21/16	EYE NOT DEFINED
23	302230Z	21.8N	135.9E	56-P-10	---	40	10380	1009	10/08	CIRC DIA 40MI OPEN SW-N

TYPHOON TESS 24-31 MARCH 1961
POSITION AND FORECAST VERIFICATION DATA

DTG	STORM POSITION LAT.	LONG.	24 HR. ERROR DEG. DISTANCE	48 HR. ERROR DEG. DISTANCE
240000Z	08.6N	144.3E	-------	-------
240600Z	08.9N	143.6E	-------	-------
241200Z	09.1N	142.6E	-------	-------
241800Z	09.1N	141.3E	-------	-------
250000Z	09.0N	140.1E	065-146	-------
250600Z	09.0N	139.1E	065-185	-------
251200Z	09.0N	138.1E	070-210	-------
251800Z	09.2N	137.2E	070-235	-------
260000Z	09.7N	136.5E	246-74	072-265
260600Z	10.4N	135.9E	251-140	078-272
261200Z	11.0N	135.7E	238-162	086-247
261800Z	11.5N	135.5E	212-140	086-230
270000Z	12.0N	135.4E	246-148	250-303
270600Z	12.5N	135.4E	243-177	249-350
271200Z	12.9N	135.3E	256-141	250-391
271800Z	13.3N	135.4E	260-174	238-352
280000Z	13.7N	135.5E	275-84	252-389
280600Z	14.1N	135.5E	325-26	250-355
281200Z	14.5N	135.4E	360-55	263-240
281800Z	14.8N	135.2E	018-63	268-252
290000Z	15.2N	135.0E	058-105	030-118
290600Z	15.7N	134.7E	073-117	042-188
291200Z	16.3N	134.5E	096-116	050-292
291800Z	17.0N	134.5E	104-127	058-360
300000Z	17.7N	134.6E	118-71	062-435
300600Z	18.5N	134.4E	159-61	068-430
301200Z	19.5N	134.1E	153-23	078-407
301800Z	20.8N	134.6E	186-59	087-382
310000Z	22.1N	136.4E	188-88	139-118
310600Z	23.0N	138.8E	221-110	228-162

AVERAGE 24 HOUR ERROR 117 MI
AVERAGE 48 HOUR ERROR 297 MI


24 HR FORECAST POSITS
TYPHOON TESS
24-31 MARCH 1961
Legend
24 HR FORECAST POSITS
6 HR BEST TRACK POSITS
31/00Z
30/00Z
29/00Z
28/00Z
27/00Z
26/00Z
25/00Z
24/00Z
SHANGHAI
OKINAWA
CHICHI JIMA
IWO JIMA
GUAM
SAIPAN
YAP
KOROR
WOLEAI ATOL
TRUK
PONAPE
KUSAIE
ENIWETOK ATOL
KWAJALEIN
WAKE I
FUMATAHACHI
NAURU